

Who invented the pencil



The origins of the humble pencil go back thousands of years. The ancient Egyptians and Romans used a stylus, a thin metal stick usually made of lead, to scratch words into an early form of paper called papyrus. Different versions of this device were used for centuries.

It was not until the 16th century that early pencils were produced. A large deposit of graphite was discovered near Grey Knotts in England during the first half of the 1500's. Local residents cut the graphite into sticks and used them to mark their sheep. The graphite was misidentified as lead, a word that has been connected with pencils ever since, even though modern ones don't contain any lead.

Graphite had great military value as a liner of moulds for cannonballs, so the mine was quickly taken over by the English government. Workers had to smuggle graphite out of the mine for use in pencils. The graphite sticks were wrapped in sheepskin or string to stabilize them.

An Italian couple, Simonio and Lyndiana Bernacotti, invented the pencil in its modern form around 1560. They hollowed out a stick of juniper wood and placed a graphite stick inside. Not long afterward, an improved technique was developed in which a graphite stick was inserted into two wooden halves that were then glued together. This same basic technique is still used more than 400 years later.

When man first ventured into space in the early 1960's, they carried pencils along with them to make notes because pens didn't work without gravity. Early American astronauts carried ordinary pencils while Soviet cosmonauts used grease pencils. The pencils worked well enough, but their dust tended

to float around the cabin and their tips, if broken off, could have clogged sensitive electronics. Something better was needed. Enter Paul C. Fisher, founder of the Fisher Pen Company. He invented the ballpoint “bullet pen” in the 1940s. Twenty years later, he improved on the design by adding a pressurized cartridge that kept the ink flowing toward the tip no matter what the environment. This new space pen could write upside down, underwater and in temperatures ranging from -50 F to +400 F.

After rigorous testing, NASA bought 400 of Fisher’s space pens in 1967 for use by the Apollo astronauts. Two years later, the Soviets purchased 100 pens for use by its cosmonauts. Fisher space pens are still used in orbit today.

Later on, a story circulated that NASA had spent 10 years and \$12 million developing the space pen while the Soviets used cheap pencil. This is not true; the Fisher Pen Company spent about \$1 million of its own money developing the space pen with no government funding. NASA bought its initial batch of 400 pens for \$6 apiece for a grand total of \$2, 400. It was a very small expenditure for an Apollo program that cost \$25 million in 1960’s money.

Now you know the story of who invented the pencil and the myth about the pencil's use in space. The next time someone tells you that urban legend about astronauts and their expensive pens, you can tell them the real story.